

# Tree diseases: combating misinformation in a rapidly changing world

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University of Padova, Italy



# Urban Forestry is different from traditional Forestry

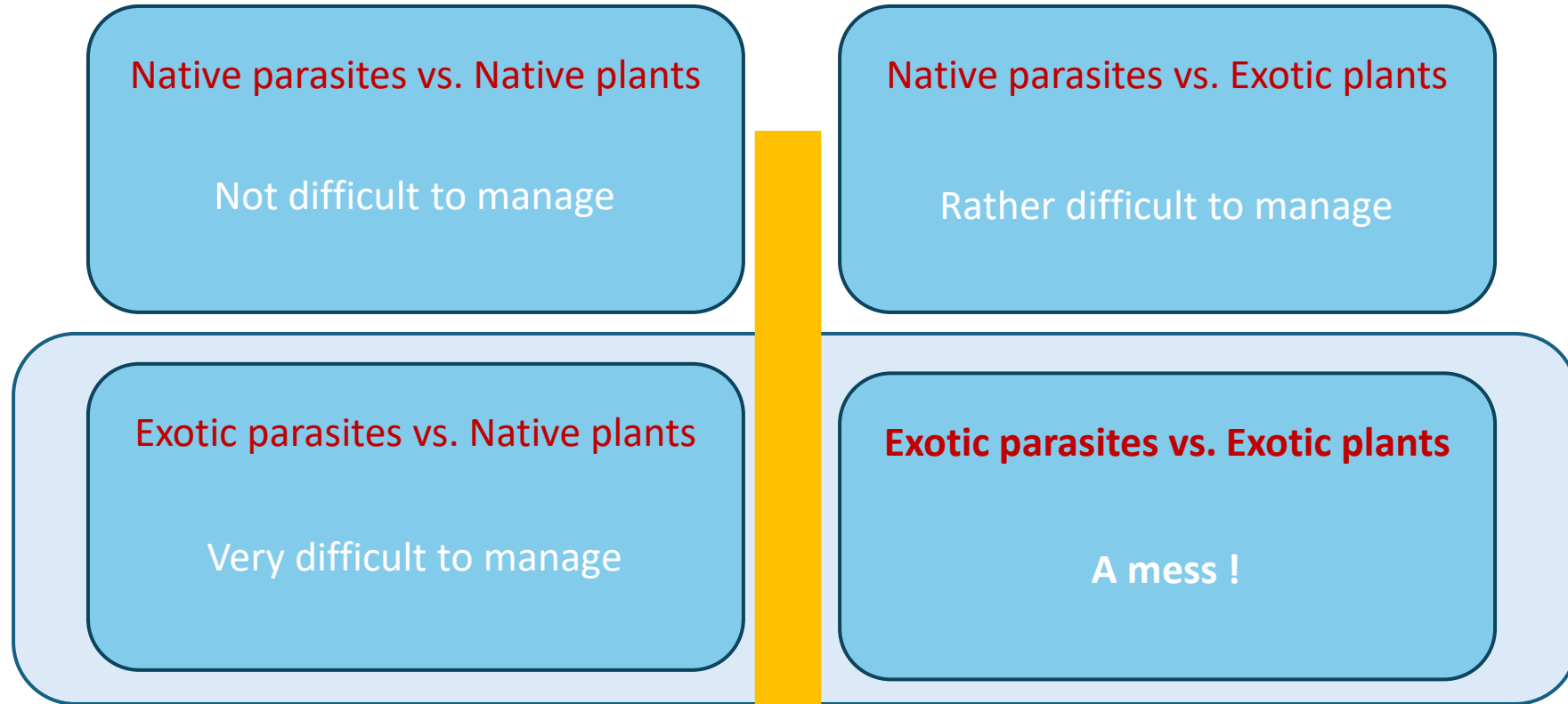
Every single tree is an entity to protect

Trees, native or exotic,  
are grown in a exotic environment (mainly due to soil features)

Their susceptibility to stressors is very high (i.e. frequent pruning)

**Urban trees need *urban trees' pathologists***

# Biosecurity: 4 possible scenarios



So, once more:

**Urban trees need *urban trees' pathologists***

**Without a science-based approach  
the word «Biosecurity» risks to be become just a trendy word.**

**Do we have the right instruments? Yes!**

**Diagnosis through a science-based approach (i.e. EPPO Standards)**

**Survey and Monitoring**

**Technical support and legislation**

**Eradication and Containment measures**

**Can we improve them? Yes!**

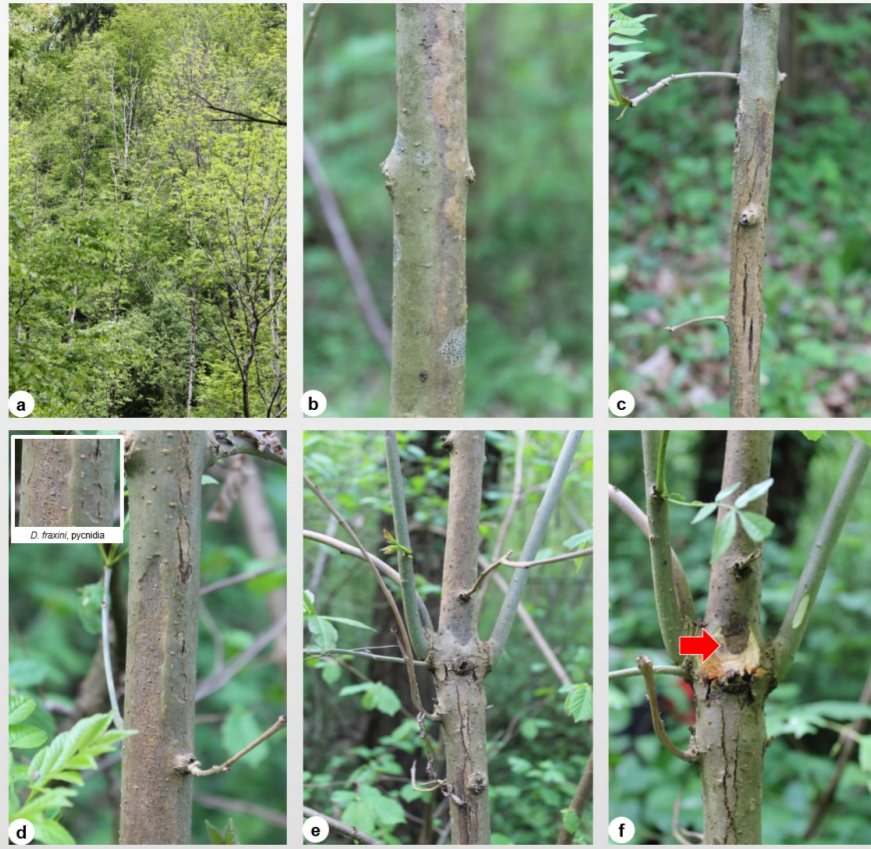
**A Prompt and Correct identification and diagnosis  
is the first and fundamental point,  
from which all the other ones derive.**

Too often reports and diagnosis from **willing volunteers** (“Social Science”) are based on apparently-true, plausible, **convincing, but misleading information** available on the Internet



Do you think it's  
*Hymenoschiphus* on  
Ash?

Let me check ...



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Yes, it is!



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***Diplodia fraxini* and *Diplodia subglobosa*: The Main Species Associated with Cankers and Dieback of *Fraxinus excelsior* in North-Eastern Italy**

by  Benedetto T. Linaldeddu <sup>1,\*</sup>  Francesco Bottecchia <sup>1</sup>  Carlo Bregant <sup>1</sup>   
 Lucia Maddau <sup>2</sup> and  Lucio Montecchio <sup>1</sup>

<sup>1</sup> Dipartimento Territorio e Sistemi Agro-Forestali, Università degli Studi di Padova, Viale dell'Università 16, 35020 Legnaro, Italy

<sup>2</sup> Dipartimento di Agraria, Università degli Studi di Sassari, Viale Italia, 39, 07100 Sassari, Italy

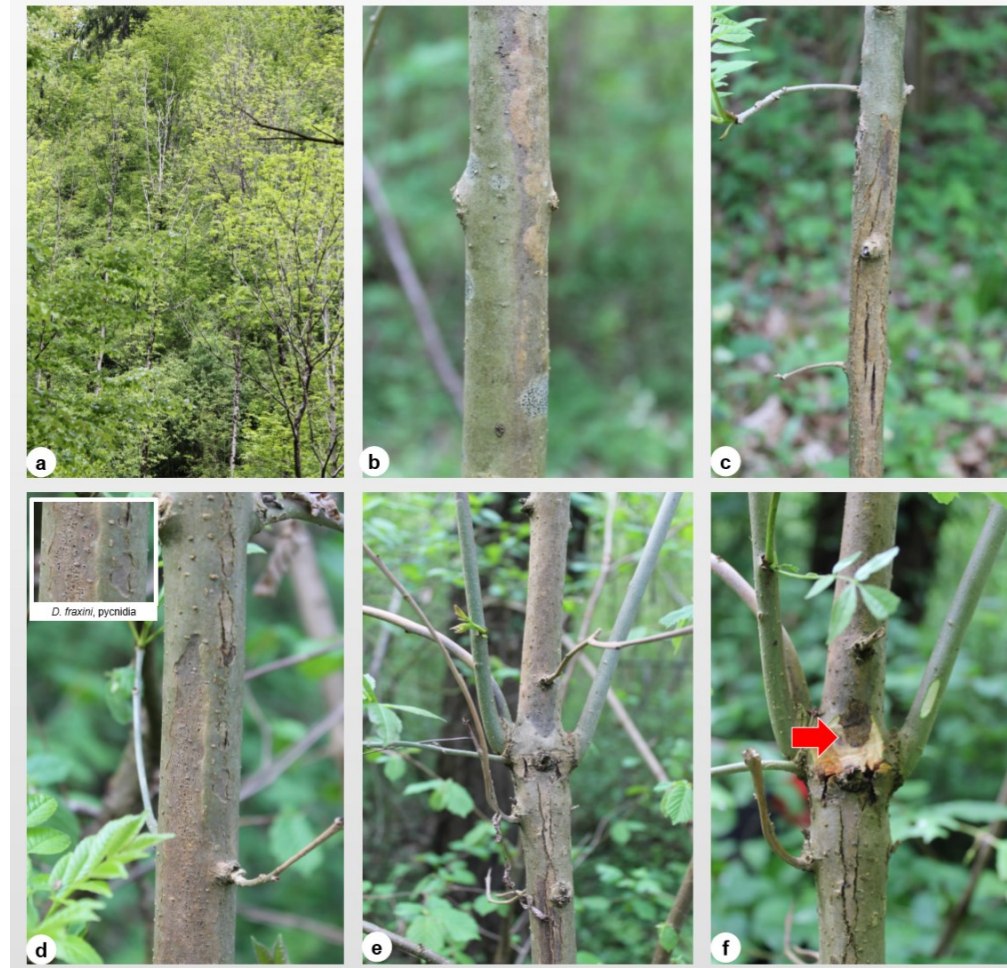
\* Author to whom correspondence should be addressed.

*Forests* **2020**, *11*(8), 883; <https://doi.org/10.3390/f11080883>

But this is not  
*Hymenoschiphus*.

It's *Diplodia fraxini*

Very similar external  
symptoms, but  
different parasites=  
different diseases





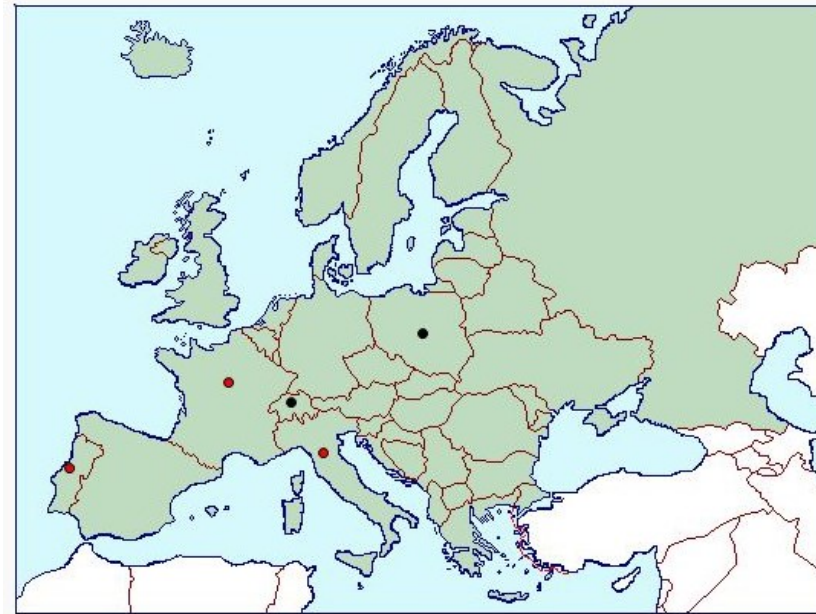
# *Ceratocystis platani* (Canker stain)

Reported in Europe in 1972, Quarantine status in the EU.

**Without natural vector, it's still spreading.**

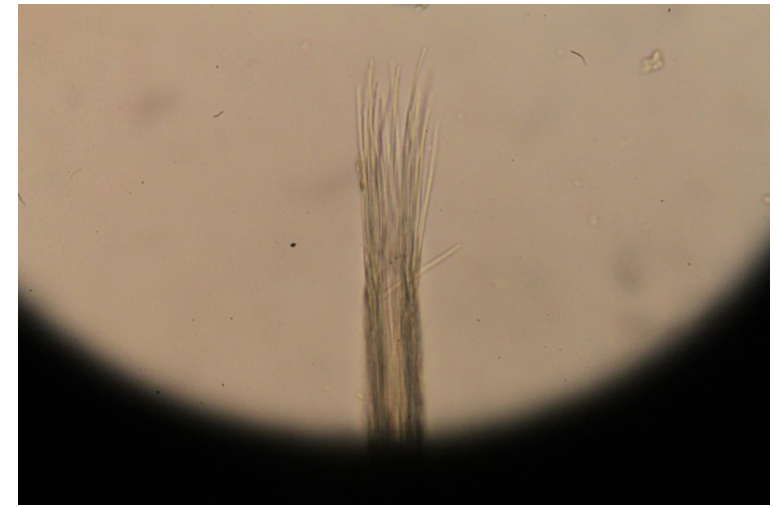
**Why?**

**Wrong diagnosis? Management?**





Visual assessment can be misleading, but diagnosis is very easy.



# Wikipedia.org, until 2021



## *Ceratocystis platani*

From Wikipedia, the free encyclopedia

***Ceratocystis platani*** is a fungus that causes a disease on plane trees in t

### Contents [hide]

- Description
- Canker stain
  - North America
  - Europe and the Near East
- References
- External links

### Description [edit]

*Ceratocystis platani* is believed to be native to southeastern USA.<sup>[1]</sup> The tu  
a new species in 2005.<sup>[1]</sup>

### Canker stain [edit]

*Ceratocystis platani* causes a disease in **plane trees** known as "Canker sta  
Oriental plane (*Platanus orientalis*) is considered highly susceptible to the fungus; American sycamore (*Platanus occidentalis*) probably coevolved with the fungus and is relatively resistant, while the hybrid London plane (*Platanus ×*





# Still in the Swedish page (29th May 2024)

WIKIPEDIA  
Den fria encyklopedin

Sök på Wikipedia

## Ceratocystis p

Artikel Diskussion

nehåll dölj

ledning  
ällor

**Ceratocystis platani** är en ...  
av Engelbr. & T.C. Harr. 200...  
[Ceratocystidaceae](#).<sup>[3][4]</sup> Inga

Källor [redigera | rediger

1. ^ J.M. Walter (1951) ,
2. ^ Baker Engelbrecht, C...  
*fimbriata* on sweet pot
3. ^ [a b] Bisby F.A., Rosk...  
Baillargeon G., Ouvrar...  
[Checklist](#).<sup>?</sup> Species
4. ^ *Species Fungorum*.<sup>?</sup>

**Ceratocystis platani**



Canker caused by *Ceratocystis platani*  
on a plane tree

Skapa k

8 språk

Redigera Redigera wikitext Visa historik Verktyg

automatisk redigering. (2012-10)  
er bilder. Mallen kan avlägsnas efter en kontroll av

ande namn

**Ceratocystis platani**



., Bourgoïn T.,  
11 Annual

# March 2018: international meeting

Selected species

- Species should be easily recognizable
- 115 species
- 61 plant species, 26 insect species, 20 fungi, 1 phytophthora species
- Alert list
- Observation list



*Ceratocystis platani*



Canker caused by *Ceratocystis platani* on a plane tree





# Wikipedia.org (29th May, 2024)

en.wikipedia.org/wiki/Ceratocystis\_platani

Contents [hide]

(Top)

## Description

### ▼ Canker stain

North America

Europe and the Near East

References

External links

*Ceratocystis platani* is a fungus

## Description [edit]

*Ceratocystis platani* is believed to be part of the *Ceratocystis fimbriata* complex of species in 2005.<sup>[1]</sup>

## Canker stain [edit]

*Ceratocystis platani* causes a disease in [plane trees](#) known as "Canker stain of plane" (UK English) or "Canker of sycamore" (US English).<sup>[2]</sup>

The disease is caused by the phytotoxin [cerato-platanin](#), which occurs in the cell wall of *C. platani*, as well as other [Dikarya](#), and is involved in molecular fungus-host interactions.<sup>[3]</sup>

Oriental plane (*Platanus orientalis*) is considered highly susceptible to the fungus; American sycamore (*Platanus occidentalis*) probably coevolved with the fungus and is relatively resistant, while the hybrid London plane (*Platanus × acerifolia*) is generally intermediate in resistance between its parents.<sup>[4]</sup> The fungus is a wound parasite which rapidly infects plane trees, causing disruption of water movement, cankers and eventually death.<sup>[4]</sup> Cankers on the tree trunk are characterised by necrosis of inner bark and bluish-black to reddish-brown discolouration of sapwood.<sup>[4]</sup> The disease can cause sudden death of a portion of the crown, and trees of 30–



**Ceratocystis platani**



Canker stain of plane

**Scientific classification** 

Kingdom: [Fungi](#)

Division: [Ascomycota](#)

# Wikipedia.org. Page in Greek (29th May, 2024)

## *Ceratocystis platani*

Λήμμα [Συζήτηση](#)

Η *Ceratocystis platani* («κερατοκύ

Ο μύκητας θεωρείται ότι προέρχεται  
του δυτικού πλατάνου (*Platanus occi*  
άνθρωπο, αποδείχθηκε ότι προκαλεί  
«πλάτανος η σφενδαμνόφυλλος») κο

### Μεταχρωματικό έλκος π

Προκαλώντας [έλκος](#) στα επιρρεπή δε  
"μεταχρωματικό έλκος πλατάνου <sup>[2]</sup>".  
πολλές φορές είναι ορατή μόνο όταν  
χρόνια επεκτείνεται σε ολόκληρο το δ  
πλατανόδεντρα, τα οποία είναι υβρίδ  
συνέχεια βρέθηκαν δέντρα αυτού του γένους που εμφανίζουν ανοσία στο παθογόνο και φυτεύονται στη θέση των νεκρωμένων<sup>[5]</sup>. Χιλιάδες πλατάνια στη  
σειρά νεκρώθηκαν στην [Ελβετία](#), τη [Γαλλία](#) και την [Ιταλία](#). Έχει αναφερθεί ότι προσβάλλει πλατάνια επίσης στην [Ισπανία](#), το [Βέλγιο](#), την [Αρμενία](#) και το [Ιράν](#)<sup>[2]</sup>.



🌐 8 γλώσσες ▾

σία [Επεξεργασία κώδικα](#) [Προβολή ιστορικού](#) [Εργαλεία](#) ▾

άλλει τα [πλατάνια](#) .

ον, προσβάλλει μέλη  
η, κατέλαθος από τον  
(*Acerifolia* ·  
).



*Platanus orientalis* που μολύνθηκε  
με *Ceratocystis platani* στο Παλάτι του  
Φούλαμ, Αγγλία.

ς όνομα στην ασθένεια  
πλατάνου, η οποία  
υση, η οποία με τα  
λάπτοντας τα εκεί

πλατάνου, μέλη του γένους (*Platanus acerifolia*)<sup>[4]</sup>. Πάντως, στη

συνέχεια βρέθηκαν δέντρα αυτού του γένους που εμφανίζουν ανοσία στο παθογόνο και φυτεύονται στη θέση των νεκρωμένων<sup>[5]</sup>. Χιλιάδες πλατάνια στη

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# Wikipedia.org. Page in Italian (29th May, 2024)

## Cancro colorato del platano

Da Wikipedia, l'enciclopedia libera.

Il **cancro colorato del platano** (acronimo **EPPO: CERAFP<sup>[1]</sup>**) è una malattia che colpisce gli organi legnosi di numerose specie di **platano**, in particolare l'**o**

### Indice [nascondi]

- 1 Storia e diffusione
- 2 Epidemiologia e patogenesi
- 3 Sintomatologia
- 4 Terapia e contrasto
- 5 Note
- 6 Altri progetti

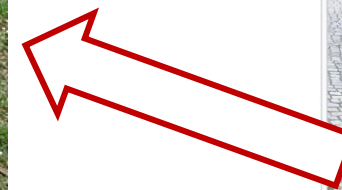
### Storia e diffusione [ modifica | modifica wikitesto ]

Il cancro colorato del platano fu segnalato per la prima volta nel 1925 sulla **costa orientale** degli **Stati Uniti d'America**, dove in pochi anni decimò le popolazioni di platani di grandi centri urbani tra cui **Boston**, **Chicago** e **Filadelfia**, e sarebbe stato introdotto nel bacino del **mar Mediterraneo**, in particolare in **Francia** e **Italia**, durante la **Seconda guerra mondiale** attraverso il trasporto di casse lignee realizzate con materiale infetto.

In Francia il patogeno sarebbe arrivato nel 1944-1945 dopo lo **sbarco alleato in Provenza**, propagandosi soprattutto nella parte meridionale del paese. Tra il 1960 e il



*ystis platani*, che colpisce gli



Il tronco di un platano colpito da cancro colorato a **Ruhland**.

Too often  
Everybody  
can say  
Everything.

With no control.

«Plant pathologist»

«Entomologist»

«Botanist»

«Ecologist»

but also

«Olympic swimmer», «Chef», «Horseshoer»

are Professions that cannot be learned from Internet.



Scientists and technicians should promptly share knowledge, strategies, successes and failures



Increasing «physical», real meetings at local level,  
workshop, labs ...



# We have a **collective responsibility** on trees' health.

There's a need for **ONE**, single, updated and **multilingual** source of information,  
**Certified by a *super-partes* body** (FAO, EU, EPPO, EFSA, ...),  
Mainly intended for people involved in “**social science**” surveys.



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